

AMENDMENTS TO THE CLAIMS

The listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

1-30. (Canceled).

31. (New) A method for processing a data packet stream in a communications system, with the steps of:

receiving a first admission control packet (ACP) that includes a number of admission control parameters,

reading from said first admission control packet (ACP) at least one admission control parameter indicating a throughput (RI) required for a real-time processing of a sub-stream of data packets related to the first admission control packet (ACP),

determining a currently available throughput (V),

comparing the available throughput (V) with the required throughput (RI),

admitting the real-time processing of the sub-stream, if the available throughput (V) is higher than or equal to the required throughput (RI).

32. (New) The method according to claim 31, wherein the step of reading the at least one admission control parameter comprises the reading of a maximum throughput (Rh),

with the additional step of choosing for the sub-stream a throughput between the required throughput (RI) and a minimum of the maximum throughput (Rh) and the available throughput (V).

33. (New) The method according to claim 32, with the additional step of:

sending the sub-stream if it is admitted for real-time processing to a packet scheduler for real-time processing.

34. (New) The method according to claim 33, with the additional steps of:
determining a delivery deadline for a payload data packet of the sub-stream admitted for real-time processing;
sorting the payload data packet into a first queue (EDF); and
setting a time stamp, that is related to the sorted-in payload data packet, in the first queue (EDF) to the determined delivery deadline.

35. (New) The method according to claim 32, with the additional step of sending the sub-stream if it is not admitted for real-time processing to a packet scheduler for non-real-time processing.

36. (New) The method according to claim 35, with the additional step of sorting the data packets of the sub-stream rejected for real-time processing in their order of appearance into a second queue (FIFO).

37. (New) The method according to claim 31, with the additional step of generating and returning from an admission controller (AC) along the sub-stream's transmission path a modified admission control packet comprising throughput capability parameters of said admission controller (AC).

38. (New) The method according to claim 31, with the further step of receiving at least one of the admission control parameters from a header of an underlying network protocol.

39. (New) The method according to claim 34, with the additional steps of:
sending the sub-stream if it is not admitted for real-time processing to a packet scheduler for non-real-time processing;
sorting the data packets of the sub-stream rejected for real-time processing in their order of appearance into a second queue (FIFO);

further processing the data packets from the first queue (EDF) according to their delivery deadlines; and

further processing the data packets from the second queue according to a first in first out strategy.

40. (New) The method according to claim 39, with the additional step of prioritising by an output interface for the further processing data packets contained in the first queue (EDF) and data packets contained in the second queue (FIFO).

41. (New) The method according to claim 40, with the further step of detecting a deadline violation by repeatedly comparing for payload packets sorted into the first queue (EDF) their actual time spent in said first queue with their deadlines according to their time stamps.

42. (New) The method according claim 41, with the further step of performing after detecting the deadline violation an adaptation of at least one payload data packet of the first queue (EDF).

43. (New) A device in a communications system, comprising:
an evaluation means to evaluate at least one control parameter given by at least one control packet (ACP) embedded in a traffic flow;
a determining unit to determine a currently available throughput (V) of the network node; and
a decision means to decide under consideration of the currently available throughput (V), whether an incoming data packet traffic flow can be processed at the network node according to real-time requirements given by admission control parameters.

44. (New) The device according to claim 43, further comprising:
a first queue (EDF) for data packets that are admitted for real-time processing;

a second queue (FIFO) for data packets that are not admitted for real-time processing; and

a transfer unit to forward a data packet traffic flow after a positive decision by the decision means to the first queue (EDF) or after a negative decision to the second queue (FIFO).

45. (New) The device according to claim 44, further comprising:
an output interface (OI) that prioritises the queues and that reads out data packets from the queues.

46. (New) The device according to claim 45, further comprising:
a calculator unit for calculations of deadlines for data packets.

47. (New) The device according to claim 46, wherein the first queue (EDF) includes a sorting unit to sort data packets according to their deadlines into the first queue (EDF), said sorting unit following an earliest deadline first strategy, and wherein said sorting unit sets time stamps of the first queue (EDF) according to calculated deadlines.

48. (New) The device according to claim 47, further comprising:
a deadline violation handler for monitoring of deadlines of data packets, for a detection of at least one deadline violation; and for an initiation of an adaptation of at least one data packet, and
an adaptation unit for the adaptation of at least one data packet.

49. (New) The device according to claim 43, further including a radio base station for receiving and transmitting of data packet traffic.

50. (New) A computer program product within a computer usable medium for processing a data packet stream in a communications system, comprising:

instructions within the computer usable medium for receiving a first admission control packet (ACP) that includes a number of admission control parameters;

instructions within the computer usable medium for reading from said first admission control packet (ACP) at least one admission control parameter indicating a throughput (RI) required for a real-time processing of a sub-stream of data packets related to the first admission control packet (ACP);

instructions within the computer usable medium for determining a currently available throughput (V);

instructions within the computer usable medium for comparing the available throughput (V) with the required throughput (RI); and

instructions within the computer usable medium for admitting the real-time processing of the sub-stream, if the available throughput (V) is higher than or equal to the required throughput (RI).

51. (New) The computer program product according to claim 50, wherein the instructions for reading the at least one admission control parameter comprises:

instructions within the computer usable medium for the reading of a maximum throughput (Rh) and

instructions within the computer usable medium for choosing for the sub-stream a throughput between the required throughput (RI) and a minimum of the maximum throughput (Rh) and the available throughput (V).

52. (New) The computer program product according to claim 51, further comprising instructions within the computer usable medium for sending the sub-stream if it is admitted for real-time processing to a packet scheduler for real-time processing.

53. (New) The computer program product according to claim 52, further comprising:

instructions within the computer usable medium for determining a delivery deadline for a payload data packet of the sub-stream admitted for real-time processing;

instructions within the computer usable medium for sorting the payload data packet into a first queue (EDF); and

instructions within the computer usable medium for setting a time stamp, that is related to the sorted-in payload data packet, in the first queue (EDF) to the determined delivery deadline.

54. (New) The computer program product according to claim 51, further comprising instructions for sending the sub-stream if it is not admitted for real-time processing to a packet scheduler for non-real-time processing.

55. (New) The computer program product according to claim 54, further comprising instructions for sorting the data packets of the sub-stream rejected for real-time processing in their order of appearance into a second queue (FIFO).

56. (New) The computer program product according to claim 50, further comprising instructions for generating and returning from an admission controller (AC) along the sub-stream's transmission path a modified admission control packet comprising throughput capability parameters of said admission controller (AC).

57. (New) The computer program product according to claim 50, further comprising instructions for receiving at least one of the admission control parameters from a header of an underlying network protocol.

58. (New) The computer program product according to claim 53, further comprising:

instructions for sending the sub-stream if it is not admitted for real-time processing to a packet scheduler for non-real-time processing;

instructions for sorting the data packets of the sub-stream rejected for real-time processing in their order of appearance into a second queue (FIFO);

instructions for further processing the data packets from the first queue (EDF) according to their delivery deadlines; and

instructions for further processing the data packets from the second queue according to a first in–first out strategy.

59. (New) The computer program product according to claim 58, further comprising instructions for prioritising by an output interface for the further processing data packets contained in the first queue (EDF) and data packets contained in the second queue (FIFO).

60. (New) The computer program product according to claim 59, further comprising instructions for detecting a deadline violation by repeatedly comparing for payload packets sorted into the first queue (EDF) their actual time spent in said first queue with their deadlines according to their time stamps.

61. (New) The computer program product according to claim 50, further comprising instructions for performing after detecting the deadline violation an adaptation of at least one payload data packet of the first queue (EDF).